SANTA CRUZ BIOTECHNOLOGY, INC.

HNMT (D-5): sc-374306

BACKGROUND

Histamine is a biogenic amine that functions as a neurotransmitter in the gut and plays an important role in the immune system, specifically by dilating lood vessels in response to allergic reactions. HNMT (histamine N-methyltransferase), also known as HMT, HNMT-S1 or HNMT-S2, is a 292 amino acid protein that exists as a monomer and belongs to the methyltransferase superfamily. Localized to the cytoplasm, HNMT catalytically inactivates histamine by N-methylation and, via this inactivation, plays an essential role in the degradation of histamine. Through its ability to regulate and reduce the amount of histamine within the cell, HNMT participates in the airway response and limits the severity of allergic reactions. A common genetic polymorphism in HNMT may be linked to a predisposition to asthma. HNMT is expressed as multiple isoforms due to alternative splicing events.

REFERENCES

1. Yamauchi, K., et al. 1994. Structure and function of human histamine N-methyltransferase: critical enzyme in histamine metabolism in airway. Am. J. Physiol. 267: L342-L349.
2. Girard, B., et al. 1994. Human histamine N-methyltransferase pharmacogenetics: cloning and expression of kidney cDNA. Mol. Pharmacol. 45: 461-468.
3. Aksoy, S., et al. 1996. Human histamine N-methyltransferase gene: structural characterization and chromosomal location. Biochem. Biophys. Res. Commun. 219: 548-554.
4. Preuss, C.V., et al. 1998. Human histamine N-methyltransferase pharmacogenetics: common genetic polymorphisms that alter activity. Mol. Pharmacol. 53: 708-717.
5. Yan, L., et al. 2000. Histamine N-methyltransferase pharmacogenetics: association of a common functional polymorphism with asthma. Pharmacogenetics 10: 261-266.

CHROMOSOMAL LOCATION

Genetic locus: HNMT (human) mapping to 2q22.1.

SOURCE

HNMT (D-5) is a mouse monoclonal antibody raised against amino acids 1-292 representing full length HNMT of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HNMT (D-5) is available conjugated to agarose (sc-374306 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374306 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374306 PE), fluorescein (sc-374306 FITC), Alexa Fluor® 488 (sc-374306 AF488), Alexa Fluor® 546 (sc-374306 AF546), Alexa Fluor® 594 (sc-374306 AF594) or Alexa Fluor® 647 (sc-374306 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374306 AF680) or Alexa Fluor® 790 (sc-374306 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HNMT (D-5) is recommended for detection of HNMT of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HNMT siRNA (h): sc-94838, HNMT shRNA Plasmid (h): sc-94838-SH and HNMT shRNA (h) Lentiviral Particles: sc-94838-V.

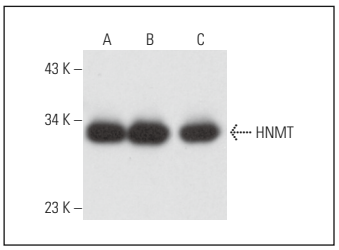
Molecular Weight of HNMT: 33 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, Caco-2 cell lysate: sc-2262 or HeLa whole cell lysate: sc-2200.

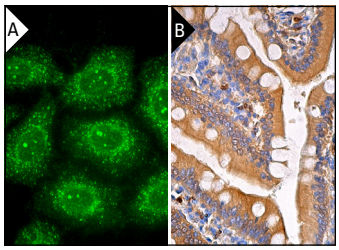
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HNMT (D-5): sc-374306. Western blot analysis of HNMT expression in HeLa (**A**), THP-1 (**B**) and Caco-2 (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



HNMT (D-5): sc-374306. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**B**).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.